

Appl. No. 09/663,593

IN THE CLAIMS

Please cancel Claim 9.

Please amend Claims 6 and 8; and add Claims 10-15 as follows:

1. -5. (Cancelled)

6. (Currently Amended) A semiconductor device comprising a semiconductor body having a first region of a first conductivity type and, adjoining thereto, a second region of ~~a~~ the second, opposite, conductivity type, a third region of the first conductivity type, which is adjacent the second region and separated from the first region only by the second region, and a fourth region of the first conductivity type which is separated from the second region by the third region and which has a higher doping concentration than the third region, the first, the second and the fourth region being provided with a terminal, wherein the third region is provided with a protection zone of the first conductivity type having a higher doping concentration than the third region, which protection zone is separated from the second region by the third region and is situated near the fourth region, and separated from said fourth region by an intermediate, comparatively high-impedance region, wherein the third region and the fourth region form, respectively, a drift region and a drain region of a Lateral DMOS transistor;

wherein the protection zone further comprises a ring around the fourth region.

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7. (Cancelled)

8. (Currently Amended) A semiconductor device comprising a semiconductor body having a first region of a first conductivity type and, adjoining thereto, a second region of the second, opposite, conductivity type, a third region of the first conductivity type, which is adjacent the second region and separated from the first region only by the second region, and a fourth region of the first conductivity type which is separated from the second region by the third region and which has a higher doping concentration than the third region, the first, the second, and the fourth region being provided with a terminal, wherein the third region is provided with a protection zone of the first conductivity type having a higher doping concentration than the third region, which protection zone is separated from the second region by the third region and is situated near the fourth region and around the fourth region, and separated from said fourth region by an intermediate, comparatively high-impedance region, characterized in that the device is of the RESURF type, wherein the product of the thickness and the doping concentration of the third region is approximately 10^{12} atoms per cm^2 ;
wherein the protection zone further comprises a ring around the fourth region.

9. (Cancelled)

10. (New) The semiconductor device of Claim 6, wherein the first region and the

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second region are electrically coupled.

11. (New) The semiconductor device of Claim 6, further comprising a deep via of the second conductivity type, the deep via disposed adjacent the second region and in electrical contact therewith.

12. (New) The semiconductor device of Claim 11, wherein the third region is disposed over a substrate region of the second conductivity type, and wherein the deep via is in electrical contact with the substrate region.

13. (New) The semiconductor device of Claim 6, wherein the third region is disposed over a substrate region, the substrate comprising an electrically insulating material.

14. (New) The semiconductor device of Claim 12, further comprising a gate electrode disposed over, and insulated from, at least a portion of the first region and at least a portion of the second region.

15. (New) The semiconductor device of Claim 8, wherein the first region and the second region are electrically coupled; and further comprising a deep via of the second conductivity type, the deep via disposed adjacent the second region and in electrical contact therewith.